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# Q U HOT ROD

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Vibration Control

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Restoration

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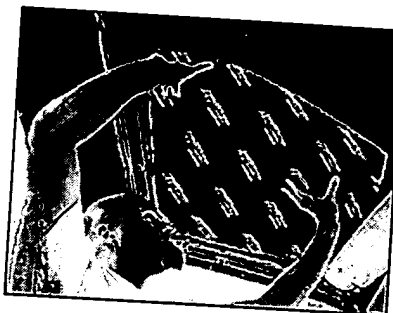
## Rattleproofing Your Rod Buzz-Killers That Really Work

There are few secrets left in rod-building, but this might be one of them: sound-cancellation mats. They are sheets of adhesive-backed, dense, rubberlike material that bond to the inside of your car's sheetmetal or fiberglass panels to damp vibration and block road noise. We've used them in everything from roadsters to truck cabs and found them to be spectacularly effective. This type of soundproofing is easy to do, and you'll be shocked at how much more you'll like your car when you're done. Treated doors will shut with a more pleasing thunk, exhaust resonance will be damped, road noise will be reduced, and your stereo will sound better.

We've used sound-killing products from both Scosche (Accumat) and Dynamic Controls (Dynamat) and like them both. The product we use most frequently is Accumat Lite in the 0.045-inch thickness, though a thinner 0.035-inch material is also available. The vibration-damping Accumat Lite is made of a material the company calls visco-elastic. Competitive items from Dynamic Controls are Dynamat Original (0.070-inch thick) and Dynamat Premium (0.040-inch thick) in a material called styrene-butadiene-rubber. Dynamat Premium contains greater inert mineral content.

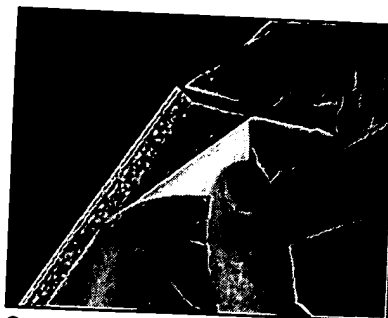
Neither the Accumat Lite nor the Dynamat require heat to bond to sheetmetal, though warmth can help form the mats around contours. They stick well to clean sheetmetal (we use a grease and wax remover first), but are trickier to adhere to rough fiberglass. In theory, a single 12x12-inch square in the middle of a panel will help kill vibration, but we usually coat the entire inside of the doors and underside of the roof with the stuff. The dense sheets of matting can even be used to seal small gaps and air leaks where two panels meet. Use them on wheeltubs, too.

Both companies also make products that include a layer of open-cell foam. Accumat combines it



Test	Before	After	dB Reduction
Motor size door slam*	83.6	81.7	1.9
600- rpm idle	59.4	58.4	1.0
1,000- rpm static	66.0	63.4	0.6
1,500- rpm static	70.9	69.4	1.5
2,500- rpm static	80.9	78.6	2.3
20 mph over speed bump	74.9	74.9 0.0	
55 mph on highway	84.1	82.0 2.1	
	81.9	80.9	1.0

\* This test was done before adding the new weather stripping.



One thing to consider is that the open-cell foam products end up sandwiched between the car and a layer of aluminum or dense foam. Get it wet and the water tends to stay in there. That's why we prefer liberal use of the Accumat Lite and Dynamat Premium materials. They can be adhered in multiple layers if you want even more protection.



## Acoustic Insulation

Home

Products

R&amp;D

History

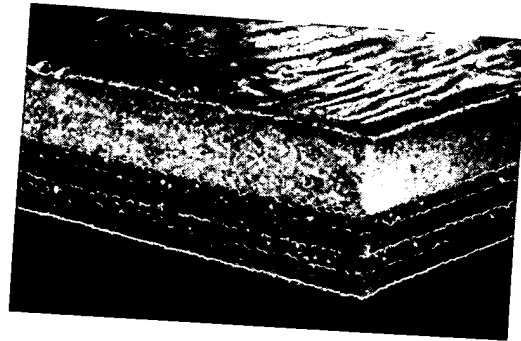
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## HIGH-PERFORMANCE ACOUSTIC INSULATION

# barrier ULTRA<sup>dB</sup>

For over a decade the name BARRIER has been associated with the highest performance and most technologically advanced thermal insulation in the world. Now BARRIER Ultra-dB<sup>™</sup> offers the same quantum leap in noise control technology. BARRIER Ultra-dB acoustic insulation is a carefully engineered soundproofing material intended for those applications requiring superior performance without the size and weight of laminated foam and lead/vinyl products.



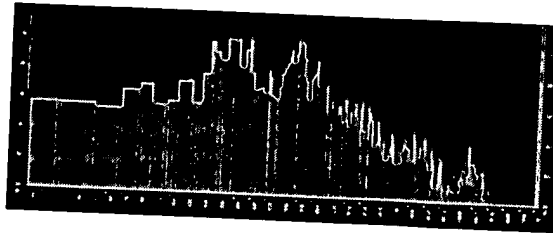
With BARRIER Ultra-dB acoustic insulation you get:

- Superior noise reduction with 48% less weight
- Superior noise reduction with 25% less thickness
- The widest frequency control of any flexible sound insulation product
- The highest quality polyether foam - 4x the life of polyurethane
- A uniquely engineered, six-layer noise control solution

### A wide frequency band solution -

Sound is an incredibly complex thing. Varying frequencies, amplitude, intensity, harmonics, pressure level, dB(a), dB(b), dB(c), dB(m), dB(v), dB(spl), sone scale, phon scale and on it goes. For the tortured ear it all adds up to just one thing - NOISE. Those of us trying desperately to get some peace and quiet may find it hard to believe that there isn't some magic material capable of just blocking it all off. Unfortunately, no such material exists.

While many materials block sound - no single material blocks noise. The problem is the frequency range. What we call "noise" nearly always consists of many different frequencies. The sound spectrum analysis on the right (click for larger image) shows a 3-cylinder diesel engine running at 2,800 rpms. The "noise" it emits includes frequencies ranging from 22Hz to over 11kHz. No single material can effectively block all these frequencies. The only way to attenuate this kind of noise is to select a combination of materials which work together to effectively control sound across a broad spectrum. In practice this is harder than it may seem since different materials grouped together change resonance characteristics and can respond in unexpected ways. When it comes to effective noise attenuation, it is the quality of the materials selected and the way in which they are combined that determines the performance of the finished product. As with all Glacier Bay products, superior engineering is the secret to the superior performance of Ultra-dB.



The physics of multilayer acoustic insulation materials.

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# Foiling the Effects of Heat and Cold

**SAVING A WORLD OF ENERGY™**

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[Radiant Barrier](#)

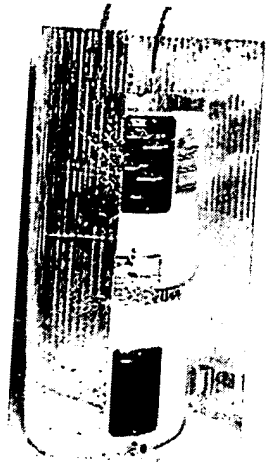
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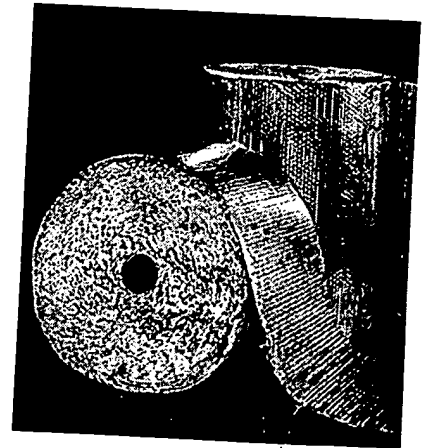
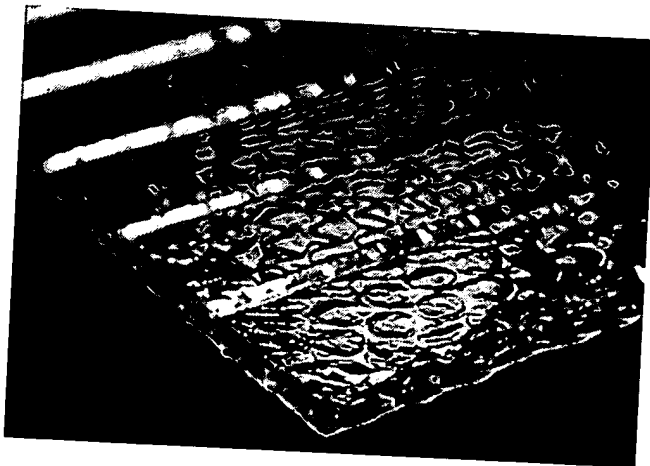
## TempShield™ Double Bubble Foil

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[Your Energy Savings](#)  
[FAQ's](#)  
[The Physics of Foil](#)  
[Contact Us / Ordering Info](#)  
[Home](#)

[Radiant Barrier](#)

[What is Radiant Barrier?](#)  
[Radiant Barrier Benefits](#)  
[Super R Diamond](#)  
[Super R Premium](#)  
[Super R Plus](#)



**TempShield™ Double Bubble Foil** is our top-of-the-line Reflective Insulation, and is 300 and 500 Sq. Ft. Rolls. Widths: 4', 5', 6', and by Special Order 8', and 10' widths.

**TempShield™ Double Bubble Foil** is **two** layers of 3/16" barrier bubble film laminated together. **TempShield™ Double Bubble Foil** is designed to be used for for and pipe wrap, metal and commercial buildings (photos 1 & 2), stud walls, roofing systems, basements, and crawlspaces when reflectivity and higher R factors are required. Vapor

**TempShield™ Double Bubble White/Foil** is **two** layers of 3/16" barrier bubble film between **one** layer of foil and one layer of white polyethylene. **TempShield™ Double White/Foil** is designed to be used for commercial or metal buildings where aesthetics are of primary importance.

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[What is Reflective Insulation?](#)  
[TempShield™ Single Bubble Double Foil](#)  
[TempShield™ Single Bubble White/Foil](#)  
[TempShield™ Double Bubble Double Foil](#)  
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